



FEMA

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DISASTER NEWS

MITIGATION SAVES TIME, MONEY AND, POSSIBLY, LIVES

Use Building Techniques to Reduce Damages in Future Storms

INDIANAPOLIS — Officials from the Federal Emergency Management Agency (FEMA) and Indiana Department of Homeland Security (IDHS) are stressing the importance of using hazard mitigation measures when rebuilding, remodeling or building new construction to save time, money and, possibly, lives when future disasters strike.

Hazard mitigation is any sustained action taken to reduce or eliminate long-term risk to life and property from a hazard event. In other words, it's the practice of preparing property to withstand damage from future disasters, such as tornadoes and flooding.

"Mitigation is recovery with foresight," said Larry Sommers, FEMA federal coordinating officer. "Hazard mitigation projects apply tried and true strategies and building practices. Far from simply returning a building or piece of infrastructure to the pre-disaster status quo, mitigation projects save time and money in the long run, and help save communities from much of the disruption that can accompany a natural disaster."

Indeed, a study by the Multihazard Mitigation Council, part of the National Institute of Building Sciences, shows that every \$1 paid toward mitigation saves an average of \$4 in future disaster-related costs.

"When people are rebuilding from September's flooding we urge them to rebuild smarter and stronger to lessen the impact of future storms," said Eric Dietz, IDHS executive director and state coordinating officer. "It's also important to check with local building officials for the proper building permits when repairing a home or business."

Disaster victims who qualify for a U.S. Small Business Administration (SBA) low-interest disaster loan to help in disaster recovery may be eligible for mitigation funds. The mitigation funds are designed to help borrowers fund protective measures to prevent damage from future severe storms and flooding. To help victims pay for mitigation measures, the SBA will fund an increase up to 20 percent of their approved physical loan amount.

Officials urge residents to consider both wind- and flood-resistant building techniques. Some measures can be put in place for little or no cost. Others require more of an investment and construction work to be performed by building professionals. The following are general suggestions for rebuilding safer and stronger; more detailed information can be found at the resources listed below. However, strengthening measures are still no guarantee that a home will not be damaged or even destroyed by a tornado or other disaster.

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PROTECTING PROPERTY FROM WIND

To minimize damage caused by high winds, emergency management officials suggest the following:

- **Anchor critical building components** in three areas:
 - **Attach roof rafters to the walls with a metal connector** - most easily added when new roof sheathing and shingles are installed – to help the structure resist wind uplift.
 - **Tie one floor to another with a continuous strap** (nailed on the outside of the wall) or with a floor-tie anchor, nailed to the inside of the wall.
 - **Secure the structure to the foundation with connectors** nailed to the studs and bolted into the concrete – also to help the structure resist wind uplift.
- **Fortify gable roofs** by bracing the end wall of the gable to resist high winds.
- **Take outside measures** to minimize flying debris:
 - Replace landscaping gravel and rock with shredded bark.
 - Keep trees and shrubs trimmed.
 - Cut weak branches and trees that could fall on your house or those around you.
- **Reinforce glass** windows and doors by:
 - Installing impact-resistant laminated glass window or door systems.
 - Applying high-strength window security films to standard window and patio door glass.
- **Fortify garage doors** by:
 - Installing permanent wood or metal stiffeners to an existing door.
 - Replacing door with one that is designed to resist high winds.
- **Build a “safe room”** inside your home to provide shelter from a storm by:
 - Reinforcing an existing room (bathroom, closet or utility room) to withstand uplift, overturning or penetration from flying debris.
 - Building a small, attached addition to your home with proper anchors and reinforcement to resist high winds or tornadoes.

PROTECTING PROPERTY FROM FLOODING

Flooding is the most common and costliest natural disaster. You can inquire about the projected flood elevation for your neighborhood during a major flooding event. Good places to start are local building departments, floodplain management offices or emergency management offices.

- **Install a sewer backflow valve** to temporarily block drain pipes and prevent sewage from backing up into the house.
- **Add a sump pump in your basement** to help keep groundwater from entering your home’s interior.

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- **Elevate key utilities and appliances** – water heaters, furnaces, washers and dryers. When possible, move them from a basement or lower level to an upper floor. Otherwise, relocate appliances on a base at least 6 inches tall. Be sure to use a licensed contractor when plumbing or electrical changes are needed.
- **Raise electrical components** – panel boxes, switches, outlets – at least 1 foot above the 100-year flood level. For help in determining the 100-year flood level in your area, check with local officials.
- **Cut drywall so that it is one-half to 1 inch off the floor**, especially in basements. Concrete floors commonly absorb ground moisture – especially in winter months. That moisture can wick up the wallboard if it's touching the floor, allowing mold to grow out-of-sight within the walls. (You can hide the gap with wood or rubberize floor trim.)
- **Anchor a fuel tank** by securing it to a large concrete slab or by running straps that are attached to ground anchors over the tank.
- **Add waterproof veneer** to exterior walls and seal all openings, including doors, to prevent water entry.
- **Don't forget to buy flood insurance** – even if you don't live in a flood-prone area. Flood insurance provides year-round financial protection and improves your ability to quickly recover when severe storms strike and cause unexpected flooding. Residents can visit www.FloodSmart.gov or call **1-800-427-2419** to learn their risk of flooding, how to prepare for floods, how to purchase a National Flood Insurance Policy and about the benefits of protecting homes and property against flooding.

To learn more about hazard mitigation and rebuilding stronger, check out these resources:

FEMA's *How To* series can be viewed, downloaded and printed from its Web site by logging onto www.fema.gov/plan/prevent/howto or you may order copies by calling 1-800-480-2520. The series features illustrated guides about topics such as reinforcing garage doors and anchoring fuel tanks.

Also on the FEMA Web site at www.fema.gov/plan/prevent/bestpractices, Best Practices stories highlight successful projects, such as elevating structures in flood-prone areas, that have withstood disaster tests.

The Federal Alliance for Safe Homes – FLASH, Inc. – is a non-profit organization dedicated to promoting disaster safety, property protection and economic well being by strengthening homes and safeguarding families from natural and manmade disasters. Its Web site is www.flash.org. It features animations that guide a homeowner or builder step-by-step through the latest tested and approved mitigation techniques for the home, including improvements to the roof, walls and windows.

FEMA manages federal response and recovery efforts following any national incident, initiates mitigation activities and manages the National Flood Insurance Program. FEMA works closely with state and local emergency managers, law enforcement personnel, firefighters and other first responders. FEMA became part of the U.S. Department of Homeland Security on March 1, 2003.

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Editors: For more information on Indiana disaster recovery, visit www.fema.gov or www.in.gov/dhs.